

9.2.2 Patterns with Complex Numbers

Name _____

If you know the **roots** (zeros), you know the **x-intercepts**.

Part 1: Why do **complex roots** always come in pairs?

Add each pair of complex numbers.

a.) $2 + i$ and $2 - i$

b.) $-4 + i$ and $-4 - i$

c.) $3 - 5i$ and $3 + 5i$

Multiply each pair of complex numbers.

a.) $2 + i$ and $2 - i$

b.) $-4 + i$ and $-4 - i$

c.) $3 - 5i$ and $3 + 5i$

Part 2: Write a **quadratic equation** that has these numbers as **roots**.

a.) $\frac{3}{4}$ and -5

b.) $3i$ and $-3i$

c.) $5 + 2i$ and $5 - 2i$

d.) $-3 + \sqrt{2}$ and $-3 - \sqrt{2}$